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DISCUSSION OF ISSUES FOR IMPROVED PRODUCER-CONSUMER CO-OPERATION

Promoting the use of aluminium products and developing aluminium fabricating facilities in developing countries and regions

Prepared by the
International Bauxite Association Secretariat

The attached paper is being made available to the Ad hoc Review Meeting on Bauxite, in the original language version.

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Promoting the use of aluminium products and developing aluminium fabricating facilities in developing countries and regions

(Prepared by IBA Secretariat for UNCTAD Meeting of Bauxite Producers and Consumers)

CONTENTS

	Page
INTRODUCTION	2
BACKGROUND	2
IBA'S EXPLORATORY WORK	3
SPECIFIC MARKET STUDIES: SCOPE OF WORK	7
IBA'S ROLE IN PROMOTING ALUMINIUM CONSUMPTION	10
NOTES	11

PROMOTING THE USE OF ALUMINIUM PRODUCTS AND DEVELOPING ALUMINIUM FABRICATING FACILITIES IN DEVELOPING COUNTRIES AND REGIONS

INTRODUCTION

1. This paper has three basic objectives. The first is to sketch the background to the broad issue of promotion of aluminium consumption. The second is to outline the steps taken by the International Bauxite Association (IBA) in collaobration with United Nations organizations to address the issue and the third objective is to give a progress report from IBA's perspective on work done so far with regard to the issue.

BACKGROUND

2. Major structural adjustments have occurred in the aluminium industry over the past 20 years, due to reduced growth rates in aluminium consumption and to significant increases in energy costs in the main industrial markets.

3. In the 1960s aluminium consumption grew at annual rates of 10 per cent or more. In the 1980s these rates had fallen to just over 1 per cent. Today's long-term projections are for annual rates of growth of 2-3 per cent. The causes of this decline include lower rates of growth of world industrial production, increased competition from substitute materials, increased recycling and downsizing of products (i.e. using less aluminium per product).

4. Accompanying the decline in the growth rate in aluminium consumption has been the major increase in energy costs (alluded to earlier) following the oil crisis of 1973 and 1979. The increase of energy costs, more specifically power costs, has led to the increase in cost of producing primary aluminium significantly in traditional producing regions viz Japan, United States and Europe. Over the past 15 years or so, the share of production coming from these traditional producers has declined dramatically in favour of new producers with relatively cheap sources of power in Australia, Brazil, Canada, Norway, Venezuela and certain Middle Eastern countries. The structural adjustments that have occurred in the industry have adversely affected suppliers of bauxite and alumina to traditional markets, since many of the new producers of primary aluminium have also utilized local sources of bauxite and alumina.

5. One of the strategic responses of IBA to these structural changes has been to seek to promote aluminium consumption "especially in member countries, regional groupings to which member countries belong and in other areas with low per capita aluminium consumption as a means of increasing demand for bauxite, alumina and aluminium from IBA member countries". It may be noted in passing that the view that there is potential for the expansion of aluminium consumption in developing regions of the world has been expressed on several occasions by aluminium company officials looking for solutions to the problem of low growth in the traditional markets.

6. An additional element of the overall strategy of the IBA has been to create "conditions to foster forward integration, where feasible, of the bauxite industry in member countries based on the beneficial exploitation of

energy and bauxite resources in IBA member countries". This strategy is cognizant of the fact that whilst the growth rate of consumption of primary aluminium has declined in the traditional markets the growth rates in the more advanced developing countries has been quite impressive.

IBA'S EXPLORATORY WORK

7. Over the period 1985-1987, IBA Secretariat undertook preliminary but fairly substantive work[1/] in monitoring trends in consumption of aluminium particularly in developing countries. That work consisted, inter alia, of the following projects:

(i) Inventory of aluminium consumption in the developed and developing countries;[2/]
(ii) Changes in the competitive position of aluminium vis-à-vis its substitute materials;
(iii) A regional overview of the Aluminium Semis Industry.

8. The preliminary work indicated that:

- There is a close correlation between the living standard in a nation and the level of per capita aluminium consumption. However, it was recognised that the standard of living may not be the only determining factor; other factors such as Government policies towards the aluminium industry may be important as well.

- In the "new" markets, the so-called newly industrialised economies such as Taiwan Province of China, Singapore, Hong Kong, Republic of Korea, together with the oil-rich developing countries such as Saudi Arabia and Bahrain, have realized high per capita aluminium consumption levels, and future consumption levels are expected to be even higher. Similar findings are reached for some Latin American countries such as Brazil, Venezuela, Argentina and Mexico, where aluminium consumption per capita is expected to increase, since policies to solve these countries' economic problems have started to show their positive impact on these economies..

- The developing countries globally offer a large potential market for the so-called conventional aluminium products. Creating the right conditions in these countries could help the metal to gain further application in many market segments. This positive move can be strengthened by encouraging the production of aluminium products which are more suitable for the enhancement of economic development in these regions.

- The finding then was that the West African region seemed to be deficient in semi-fabricating facilities. A realistic aluminium consumption demand scenario suggested that by 1990 that region would remain in a deficient situation.

- An update of this situation is presented in table 2 below. The table indicates that the West African region is most likely to be deficient in aluminium processing capacity by the year 2000.

- In the ASEAN Group of countries, there has been a duplication of aluminium fabricating facilities, the rationalisation of which is now being undertaken by the Asean Aluminium Industry Club. Notwithstanding this duplication there are deficiencies in fabricating facilities in some countries in this region.

Table 1

Estimated 1990 aluminium consumption levels (1), selected countries

	Region	Country	Population 1990 (million)	Per capita al. cons. (1990) lbs/cap.	Total aluminium cons. by region (kt)
CARIBB LATIN & CENTRAL AMERICA	CARIBBEAN	Anguilla	.007	.05	
		Antigua & Barbuda	.076	0.8	
		Dutch Antilles	.282	1.5	
		Bahamas	.253	1.5	
		Barbados	.255	1.5	
		Cuba	10.608	1.7	
		Dominica	.082	0.8	
		Dominican Rep.	6.867	1.7	
		Grenada	.085	0.5	
		Haiti	6.263	0.2	
		Jamaica	2.520	1.3	
		Puerto Rico	3.480	1.8	
		St. Kitts-Nevis	.044	0.8	
		St. Lucia	.150	0.6	
		Trinidad & Tobago	1.281	3.5	
		Martinique	.341	0.8	
		St. Vincent & Grenadines	.116	0.5	
	CENTRAL AMERICA	Belize	.187	1.1	
		Costa Rica	3.015	2.5	
		El Salvador*	5.252	0.7	
		Guatemala	9.197	1.5	
		Honduras	5.138	0.6	
		Mexico*	99.598	3.3	
		Nicaragua	3.871	0.5	
		Panama*	2.418	4.6	
	SOUTH AMERICA	Argentina*	32.322	3.6	
		Bolivia	7.314	1.0	
		Brazil*	150.368	5.9	
		Chile	13.173	2.2	
		Colombia	32.978	1.3	
		Ecuador	10.587	1.3	
		French Guiana	.098	1.5	
		Guyana	.796	0.8	
		Paraguay	4.277	1.4	
		Peru	21.550	1.1	
		Surinam	.422	1.5	
		Uruguay	3.094	1.5	
		Venezuela*	19.735	14.5	
					849.49

(1) Primary and secondary aluminium

Table 1 (cont'd)

	Region	Country	Population 1990 (million)	Per capita al. cons. (1990) lbs/cap.	Total aluminium cons. by region (kt)
WEST AFRICAN	WEST AFRICA	Benin	4.630	1.5	
		Burkina Faso	8.996	0.3	
		Cameroon*(2)	11.833	3.5	
		Cape Verde	.370	0.2	
		Gambia	.861	0.4	
		Ghana	15.028	2.8	
		Guinea	5.755	1.5	
		Guinea-Bissau	.964	0.5	
		Côte d'Ivoire	11.977	4.5	
		Liberia	2.575	0.3	
		Mali	9.214	0.6	
		Mauritania	2.024	1.5	
		Niger	7.731	1.5	
		Nigeria	108.542	4.8	
		Senegal	7.327	2.0	
		Sierra Leone	4.151	1.5	
		Togo	3.531	0.5	
					328.82
SOUTH ASIAN, SOUTH-EAST ASIAN PACIFIC	SOUTH ASIA	Bangladesh	11.593	0.8	
		Bhutan	1.516	0.7	
		India	853.094	1.1	
		Maldives	.215	0.2	
		Nepal	19.143	0.5	
		Pakistan	122.626	0.6	
		Sri Lanka	17.217	0.5	
	SOUTH-EAST ASIA & PACIFIC	Brunei	.266	0.3	
		Cambodia	8.246	0.3	
		China	1,139.060	2.2	
		Fiji	.764	0.2	
		Indonesia	184.283	0.7	
		Lao PDR	4.139	0.2	
		Malaysia	17.891	8.5	
		Myanmar	41.675	0.2	
		Papua New Guinea	3.874	0.2	
		Philippines	62.413	0.5	
		Republic of Korea	42.793	9.9	
		Samoa	.168	0.1	
		Singapore	2.723	45.8	
		Taiwan Province of China	19.263	8.5	
		Thailand	55.702	0.5	
		Viet Nam	66.693	0.2	
					10,283.62

(2) Cameroon is included because of its special relationship with this region

Table 1 (cont'd)

	Region	Country	Population 1990 (million)	Per capita al. cons. (1990) lbs/cap.	Total aluminium cons. by region (kt)
OCEANIA	OCEANIA	Australia	16.873	43.3	
		New Zealand	3.392	26.1	
					354.7(3)

Source: Updated from "Outline of Study in Collaboration with UNIDO and UNCTAD" on "Promoting the use of aluminium products, and developing aluminium fabricating facilities in developing countries and regions", IBA/EB/XLI/9/88.

(3) Figure based on statistics obtained from Metall Statistik, 1979-89.

* Represents countries with published per capita consumption figures.

Table 2

Forecast of regional capacity and demand for (semi) fabricated aluminium products in kty: 1995

(Demand scenario for the year 2000 in brackets)

Region	Estimated 1990 capacity	Projected 1995 capacity	Estimated demand		
			Low scenario	Realistic scenario	High scenario
Caribbean Latin and Central American	1,452.0	1,853.1	1,083 (1191)	1,137 (1308)	1,252 (1565)
W. African	173.8	221.8	365 (402)	383 (440)	422 (528)
South Asian Sout-East Asian and Pacific	4,441.6	4,663.7	4,317 (4749)	4,533 (5213)	4,990 (6238)
Oceania	646.9	679.2	446 (491)	468 (538)	516 (645)

Sources: Revised and updated from paper titled: "Promoting the use of aluminium products and developing aluminium fabricating facilities in developing countries and regions". Document presented by the Secretary-General of IBA to UNCTAD and UNIDO, June/July 1987.

Revisions based on IBA estimates.

SPECIFIC MARKET STUDIES: SCOPE OF WORK

9. The IBA proposed, following this broad exploratory work undertaken by its Secretariat, that specific market studies on regional bases be undertaken. It was envisaged that collaborative work could be undertaken by the IBA, UNCTAD and UNIDO. The studies would cover the following:

1. The present and potential sizes of markets, including extra-regional markets, for aluminium products in end-use sectors;

2. The barriers to increasing consumption within countries and regions, (inter alia, cultural, legal and administrative barriers should be addressed); assessment of the level and impact of import barriers (e.g. tariffs) in the main markets;

3. The measures necessary to encourage consumption;

4. The consumer acceptability of aluminium products;

5. The demand for aluminium products as consumer goods and as input into industries, including agriculture;

6. The competition from other materials - indigenous and imported;

7. The impact of infrastructural projects, such as in electrification, housing and transportation, on the demand for aluminium products;

8. A detailed quantification of capacities in semi-fabricated and fabricated facilities within individual countries and regions, in order to assess the ability to meet current and prospective demand;

9. An assessment of the net socio-economic benefit of using different sources of supply and different types of aluminium raw materials, i.e. primary and secondary, for the production of aluminium goods; incorporating an assessment of the extent of intra-regional cooperation in sourcing bauxite, alumina, primary and secondary aluminium;

10. An assessment of suitable locations for aluminium fabricating facilities;

11. An assessment of the necessity for, and the required extent of, government and other assistance e.g. IFC, in setting up fabricating facilities;

12. The cost competitiveness of fabricating facilities in individual countries and regions;

13. The sources of finance and technical assistance available for setting up and operating fabricating facilities;

14. The availability of skilled workers and the need for and availability of training programmes for the work force;

15. The income, employment and the linkage effects involved in setting up and operating fabricating facilities in countries and regions.

10. The IBA Secretariat recognized that the scope of work outlined above was extremely broad in terms of both its proposed geographic coverage and the subject areas to be covered. Having regard to the limited amount of funds available to the Secretariat, as well as to staffing limitations, it was decided to adopt a strategy for undertaking the study which reduced it to manageable proportions, took full advantage of resources available to the United Nations collaborators, and paid due attention to the particular expertise possessed by the three organizations: IBA, UNCTAD and UNIDO.

11. Accordingly, four basic regions were distinguished viz. the Caribbean, Latin and Central American regions; the West African region; the South Asian, Sout-East Asian and Pacific region; Oceania.

12. The key subject areas, with details, were distinguished as:

(a) The present and potential sizes of markets, including extra-regional markets, for aluminium products in end use-sectors

- Specify carefully the region to be tackled (see table 1 above) list subregions and countries;

- Present short demographic, geographic and economic profiles for each country within the particular region;

- Present annual data on domestic production, consumption, stocks imports and exports of aluminium products by end-use sectors for the countries, subregions and the region;

- Present trade flows in aluminium products between countries within and outside the region;

- Examine developmental programmes and projects, in particular infrastructural projects as in electrification, housing, irrigation, and transportation for individual countries, subregions and the region as a whole, so as to quantify the potential sizes of markets for aluminium products;

- Present a detailed quantification of capacities with current capacity utilization rates in semi-fabricated facilities within individual countries subregions and the region as a whole.

(b) Barriers to market access and barriers to increasing consumption within countries and regions; inter alia, trade barriers covering tariff and non-tariff barriers, cultural barriers, legal barriers, administrative barriers.

- Examine trade barriers, i.e. tariff and non-tariff barriers, existing within and outside the particular countries, the subregions and the region being covered (for example, the existence of a tariff in Japan against imports of aluminium products might impede market access of Australian aluminium products);

- Examine cultural, legal, administrative and other barriers to the use of aluminium products within and outside countries, subregions and the region as a whole; and,

- Propose measures to remove or reduce barriers to market access and to increasing consumption of aluminium production intra and extra regionally.

(c) Technical and economic matters concerning the setting up and operation of fabricating facilities

- On the basis of preliminary studies carried out by the Secretariat, the West African and South-East Asian and Pacific regions have been identified as likely to be deficient in semi-fabricating facilities in the medium term; the study should make an assessment of suitable locations for aluminium semi-fabricating and fabricating facilities having regard to the cost competitivensss of such facilities in individual countries and regions;

- Sources of finance, including finance from Government, and technical assistance available for setting up and operating fabricating facilities should be identified;

- The availability of skilled workers and the need for and availability of training programmes for the work force should be determined; and,

- The income, employment and the linkage effect involved in setting up and operating fabricating facilities should be assessed.

10. It was felt that subject area (a) would be handled principally by the IBA, subject area (b) principally by UNCTAD and subject area (c) principally by UNIDO. Both UNCTAD and UNIDO responded favourably to the outlined proposals of the IBA. UNCTAD indicated its willingness to assist in providing information generally but in particular on barriers to market access for aluminium products. UNIDO suggested that "the most appropriate programme would appear to be regional studies or pre-feasibility studies covering the West African region and the Sout-East Asian and Pacific region."

11. At its fifteenth session, held in Kingston in November 1988, the Council of Ministers of the IBA requested its Chairman "to contact West African countries in order to enlist their support in getting the Secretariat's study on promotion of aluminium consumption included in the 1990 UNIDO Work Programme, and in this connection, the Secretariat was requested to prepare the appropriate documentation to assist the Chairman".

12. After taking advice from UNIDO, the Secretariat suggested that the Chairman of the Council seek the adoption of the study by UNIDO as a project not necessarily tied to the Work Programme of UNIDO.

13. At its seventeenth session held in Kingston, in November 1990, the outgoing Chairman of the Council reported that an application had been submitted to the UNDP, specifically the United Nations Centre for Transnational Corporations (UNCTC). The approach had to be made to UNDP and not UNIDO. Furthermore, it was necessary to obtain a mandate from at least two countries in the sub-region - this was done on 5 January 1990 by Ghana and on 2 July 1990 by Sierra Leone. The Secretariat was requested to contact

UNCTC to see how the study could be undertaken. The Secretariat has been informed by UNCTC that it is proceeding to invite consultants to make proposals for undertaking the study.

IBA'S ROLE IN PROMOTING ALUMINIUM CONSUMPTION

14. The possible actions which the IBA might consider in promoting aluminium consumption and encouraging downstream processing facilities in member countries are:

- Encourage research and development of specific aluminium products, which have greater utility in developing countries;

- Foster solutions to the bottlenecks which limit the traditional aluminium products from gaining further market share in the developing countries;

- Foster marketing oriented dialogue with consumers in the "old" as well as the "new markets with a view to better understanding the obstacles which aluminium products encounter in these markets;

- Endeavour to persuade national governments of member countries to consider possible changes in government policies, (such as trade and import restriction policies; relatively high import duties for aluminium semis), which would encourage further use of the metal;

- Foster joint involvement in market related studies with other international organizations, such as UNCTAD and UNIDO, in order to be better informed about those sectors in certain regions (e.g. Caribbean, African, Asian) in which aluminium could possibly find further applications; and,

- Make relevant market and technological information on downstream processing of aluminium available to the appropriate government agencies in member countries for further national and regional action.

NOTES

1/ Some work had been done in 1983 and presented in a paper entitled "Expansion of Aluminium Use - 1. Preliminary Report on the Present Situation and Prospects", IBA/EB/XXVII/21/83.

2/ Estimated 1990 aluminium consumption levels of selected countries are presented in table 1. The IBA grouped selected countries into four broad regions, viz. Caribbean, Latin and Central America; West Africa; South Asia, South-East Asia and Pacific; Oceania.